Packaged for the Future. O-I Glass

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Georgia Recycling Coalition Conference
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Overview

- Who is O-I?
- O-I’s Sustainability Initiatives
- 2010 Statistics
- A Different Approach to Cullet
- Georgia Opportunities
Who is O-I?
We are the world’s leading glass packaging company

A market leader in all regions in which we operate

North America  | Latin America  | Europe  | Asia Pacific

Owens-Illinois, Inc.
We are a preferred partner for many global brands

- Glass packaging for beer, wine and spirits, food and non-alcoholic beverages
- Glass packaging for the drug and chemical industries
- Tableware, including stemware
O-I’s sustainability initiatives
We have challenging sustainability goals

**Sustainability Goals by 2017: Baseline Year 2007**

- **Energy**: 50% reduction in consumption per tonne packed
- **Cullet**: 60% post-consumer recycled content
- **Emissions**: 65% reduction in CO₂ equivalent emissions
- **Safety**: Zero accidents
Why recycle glass?

- Glass is endlessly and 100% recyclable. The glass you recycle today can be used for generations to come
- Use of cullet (recycled glass) in production requires less energy and lowers carbon emissions
- Every recycled bottle saves enough energy to power a 60 watt light bulb for 4 hours
2010 Statistics
In 2010, O-I used more than 6 million tons of recycled glass.
Percent post-consumer external cullet use by plant
Percent post-consumer external cullet use by region
A different approach to cullet
NORTH AMERICAN GLASS CULLET MARKET

FOOD
2.8 million tons
16%

OTHER
0.5 million tons
3%

BEVERAGE
13.7 million tons
81%

25%
POST CONSUMER GLASS STREAM

RECYCLED
4.2 million tons

RECOVERED
2.5 million tons

DOWNCYCLED
1.6 million tons

14.4 million tons
LOST

75%

LANDFILL
12.8 million tons

1.5 million tons
AMBER GLASS
1.2 million tons
48%

FLINT GLASS
0.62 million tons
32%

GREEN GLASS
0.575 million tons
22%

OTHER GLASS MANUFACTURERS

1.08 million tons

Owens-Illinois, Inc.
Cullet process map

Sourcing
- Glass Collection
  - Communication/Education
  - Community Partnerships
  - Building Infrastructure
  - Lobbying

Logistics to Treatment Centers

Treatment
- Sorting / Treating
  - Sorting technology
  - Cullet quality
  - Fine color sorting
  - Other technology

Logistics to Plants

Utilization
- Plants
  - Melting technology
  - Batch management
  - Marketing – color acceptance

Waste Management

Government

Other

Glass producers
## Program structure

### Increase use of cullet through...

#### Sourcing
- **Raw cullet supply**
  - Community Partnerships
  - Industry Alliances
  - Waste Management Industry Partnerships
  - Adjacent Materials
  - Environmental Community Support, Engagement
  - Customer Partnerships
  - Marketing / Promotion
  - Legislative Priorities

#### Treatment
- **Treatment process**
  - Explore Partnerships
  - Processing Technologies
  - Logistics Optimization
  - Equipment Suppliers
  - Jobs & Economic Impact
  - Adjacent Markets
  - Supplier Development
  - Alternative Sources of Material

#### Utilization
- **Manufacturing Process**
  - Plant Infrastructure
  - Internal Cullet Practices
  - LSS Project Replication
  - Logistics Optimization
  - Cullet Storage
  - Furnace operation
  - Batch house processes

#### Quality
- **Supply quality & consistency**
  - Alignment on Quality standards and control limits
  - LSS Project Replication
  - Sampling practices
  - Supplier partnerships / development
  - Customer engagement
Cullet Opportunities in Georgia
O-I Cullet Supply – Atlanta

**IMPACT:** $1.0 million in freight
Recycling: one size doesn’t fit all….

- Community partnerships
- Education and communication
- Environmental community support, engagement
- Waste management industry partnerships
- Marketing and promotion
- Legislative opportunities
- Partnerships with charitable organizations